

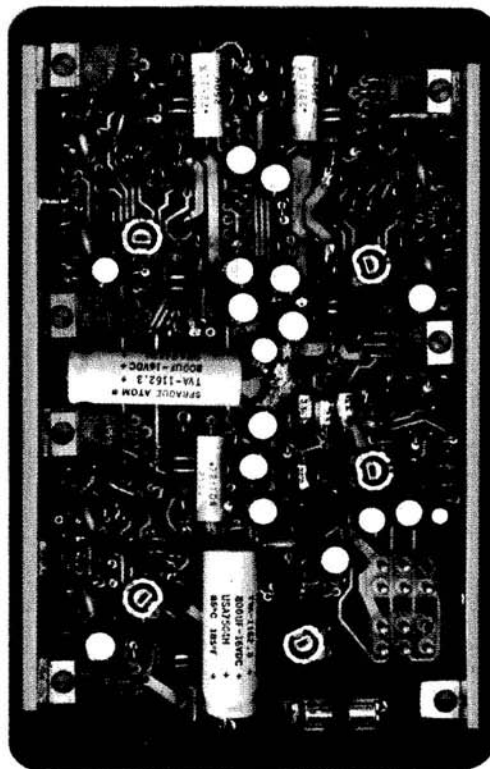
ADS 2002

OPERATING INSTRUCTIONS

Welcome to the Invisible Sound of ADS. You have just purchased the finest mobile sound system of its type; the ADS 2002/Nakamichi 250. We urge you to examine both instruction manuals carefully. The few minutes you spend familiarizing yourself with the system's many features should answer most of the questions which may arise during its installation and ensure peak system performance.

Contents

System Description	2
General Installation	3
Mechanical Installation	4
Electrical Installation	6
Important Notices	8
Fuse Replacement	10
Tweeter Level Adjustment	11
In Case Of Difficulty	11
Troubleshooting	12
Specifications	13



System Description:

The ADS 2002 is the result of over 2 years' research and development. Our goal was to design the ultimate music system for mobile use.

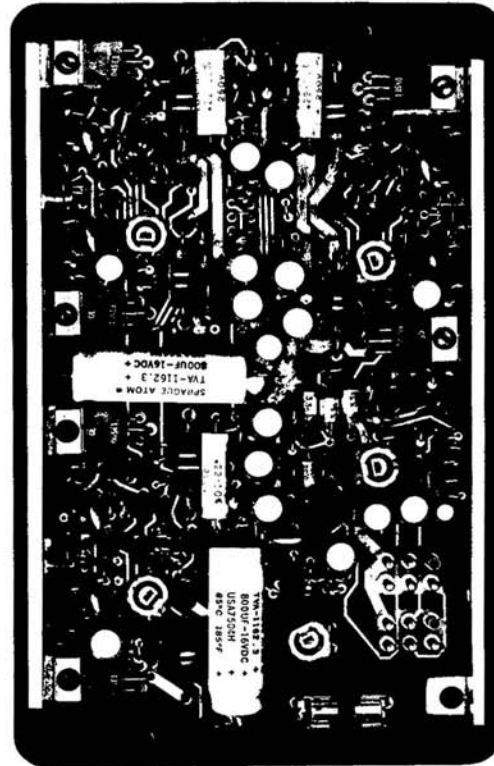
Each of the two ADS 2002 speakers is a bi-amplified, two-way system utilizing a 4" long excursion woofer and a soft-dome type 1" tweeter. The woofer and tweeter each receive power from their respective solid-state amplifier. An active electronic crossover is used to properly divide the signal between woofer and tweeter.

Advanced electronic design and precision engineered ADS woofers and tweeters are combined to put this truly remarkable mobile sound system in a class by itself.

Consult your ADS dealer for availability of an AC home converter to use your 2002/Nakamichi 250 system wherever 120V or 220V AC is available.

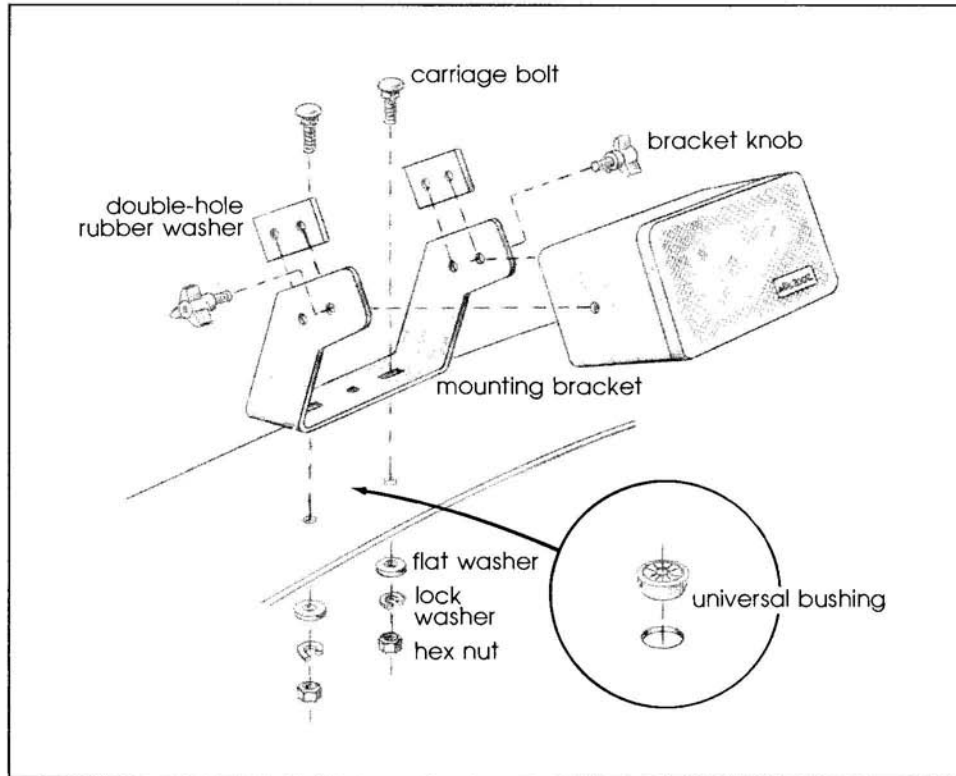
General Installation:

The ADS 2002 and Nakamichi 250 were designed as a system. All signal levels, impedances, and current ratings are, therefore, perfectly matched. In addition, the Nakamichi 250 contains all necessary volume, balance, and tone controls and provides the 2002 with switched 12 volt power. Finally, the 2002 and 250 are plug-in compatible. An adaptor cable supplied with the 250 simply connects with the 2002 audio/power cable and the electrical interface is complete.



Mechanical Installation:

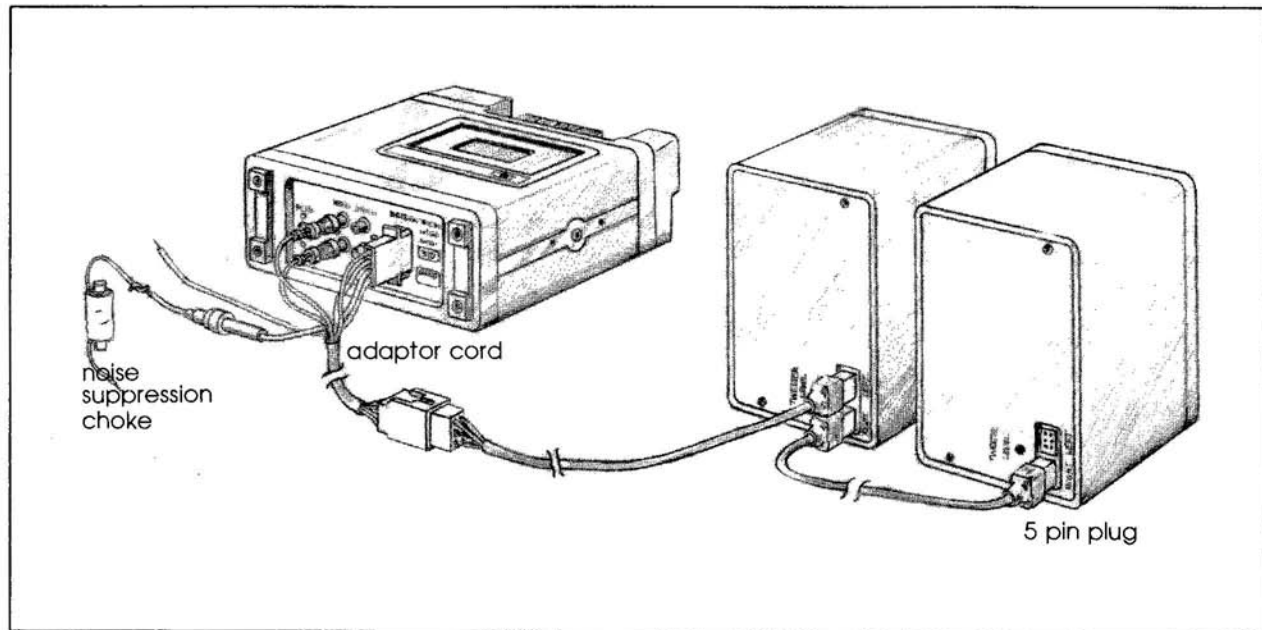
1. The double-hole rubber washers are designed to prevent the mounting brackets from scratching the speaker housings. Remove the protective backing from the washers and mount them permanently to the inside of the mounting bracket legs.
2. Using the mounting bracket as a template, drill 2 holes for each bracket at the desired mounting point in the vehicle. (Use a 1/4" drill bit.) Any two of the three mounting holes may be used, however, to ensure sufficiently rigid mounting, the holes that are used should line up with metal portions of the vehicle frame.
3. Secure the bracket to the vehicle with two each – 1/4 – 20 carriage bolts, flat washers, lock washers and hex nuts.
4. Place the 2002 in the bracket and secure it at the desired height and angle with the two bracket knobs.
5. Drill a 1-3/32" diameter hole behind each speaker (for cables) and press the universal bushing into place.



Electrical Installation:

IMPORTANT:THE ADS 2002 IS DESIGNED FOR USE IN
A 12 VOLT DC NEGATIVE GROUND
SYSTEM ONLY.

1. **Solder** either lead of the noise suppression choke (supplied with 2002) to the white lead of the adaptor cord (supplied with 250).
2. Connect the remaining lead of the noise suppression choke to the **accessory** circuit in the vehicle's fuse block. Use at least 18 gauge wire and solder connections when possible.
3. The blue lead should connect to the vehicle frame at one of the 250 upper bracket mounting points. It is most important that all paint and/or corrosion be removed from this grounding point and that the ground connection be secure mechanically and electrically.
4. Connect one end of the 20 foot 2002 cord with the 5 pin plug on the 250 adaptor cord.
5. Route this cable through the universal bushing to one of the 2002 speakers and plug it into the appropriate connector (for example, plug the cable into the connector marked "LEFT" if you have routed the 20 foot cable to the left speaker in the installation.)
6. Plug the 5 foot cable into the remaining connector ("RIGHT" in our example).Route the cable through each universal bushing to the same connector on the second 2002 (again the "RIGHT" connector).



Important Notices:

1. It is important that the electrical connections made in steps 1 and 3 of the ELECTRICAL section be good (soldered when possible). Poor connections will result in substandard system performance.
2. An unsecured 2002 could become a dangerous projectile in a collision. NEVER OPERATE THE VEHICLE UNLESS THE 2002 IS PROPERLY TIGHTENED IN ITS MOUNTING BRACKET.
3. Be certain the bolts holding the mounting bracket are fastened to **metal** portions of the vehicle frame.
4. Even in mild weather direct sunlight striking the back 2002 housing can cause very high temperatures. Heat is a severe enemy of electronic components. For this reason, it is desirable that the 2002 be covered with a suitable shield whenever the vehicle is parked for an extended time in direct sunlight.
5. The 2002 will operate only in a 12 volt negative ground electrical system.
6. When inserting or removing cable from the 2002, grasp the black "boot" which covers the interface between cable and connector. Pulling directly on the cable may cause it to separate from the connector.
7. The 2002 must not be exposed to rain or other moisture. If such exposure should occur, the system must be immediately, thoroughly dried with warm (**NOT HOT**) air from a hair dryer or equivalent.
8. Operating the 2002/250 system from the vehicle's accessory circuit will ensure the system is "OFF" when the vehicle is off.



Fuse Replacement:

The 250 adaptor cord incorporates an in-line fuse holder. If the fuse in this holder is blown, please refer to the 250 manual for replacement instructions.

Each 2002 contains its own fuse. It is highly unlikely that both of these fuses will blow simultaneously. Therefore, if both speakers are inoperative, the most likely problem is a wiring fault somewhere prior to the 2002's. Check all wiring including the fuse in the 250 adaptor cord. If no other problem can be found, then check and replace the 2002 fuses in the following manner:

1. Remove the power/audio cords from the 2002 and remove the 2002 from its mounting bracket.
2. Remove the two pan-head phillips machine screws which secure the rear cover to the 2002 – remove the cover.
3. The fuse can be removed by prying up under one of its metal ends with a wooden pencil point (remove the lead).
4. Check to see if the filament inside the fuse cylinder is melted. If not, the problem may be elsewhere. If the fuse is defective, replace only with a 1AG 3-amp fast blow fuse.
5. Make sure no foreign material was introduced into the 2002 electronics compartment; then re-install the rear cover.
6. If, upon attempting to operate the system, the fuse blows again, have your system checked by an authorized ADS service technician.

Tweeter Level Adjustment:

The 2002 tweeter level is factory set for flat frequency response. We strongly suggest that any tonal balance adjustments be made using the Nakamichi 250 tone control.

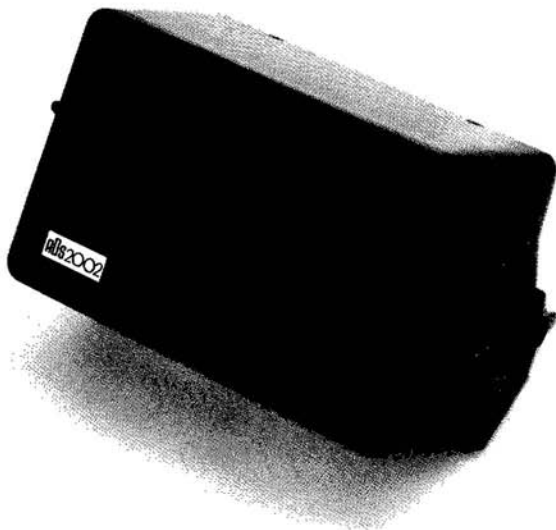
There is a provision, however, on the rear of the 2002 to make a ± 3 dB adjustment of the tweeter level. Pry out the hole plug marked "TWEETER LEVEL" by using a penknife or jeweler's screwdriver blade. The adjustment slot in the trim-potentiometer measures .075" x .025". The blade dimensions on the adjustment tool must be equal to or smaller than this slot.

CAUTION: USE ONLY A NON-METALLIC ADJUSTMENT TOOL. THE TRIMPOT ROTATES ONLY 270 DEGREES. DO NOT FORCE IT PAST ITS MECHANICAL STOPS.

Counter clockwise rotation of the control **increases** the tweeter level.

In Case Of Difficulty:

See the TROUBLE SHOOTING section of this manual. If you cannot locate the source of difficulty by using the chart, please consult your ADS/Nakamichi dealer. Never attempt repairs yourself. Repairs attempted by an unauthorized ADS service technician may result in your warranty becoming void.



Troubleshooting: (See also the 250 Owner's Manual)

CONDITION:	PROBABLE CAUSE:	CURE:
No Stereo Separation	Interconnection cable between 2002's connected to "LEFT" plug on one speaker and "RIGHT" on the other.	5 foot cable must connect to both "LEFT" or both "RIGHT" plugs
	Recording is monaural	Use stereo cassette
One Speaker Inoperative	Poor connections	Check all connections
	Blown fuse in 2002	Replace fuse
	Balance control misadjusted	Adjust
	Excessive case temperature	Cool unit
Both Speakers Inoperative	Fuse in 250 adaptor cord blown	See 250 owner manual
	Both 2002 fuses blown	Replace fuses
	Poor connection	Check all connections
	12 volt positive ground	System will not operate with positive ground
One Or Both Speakers Inoperative	Poor connection	Check all connections
	Worn connector	Try new cable

Specifications:

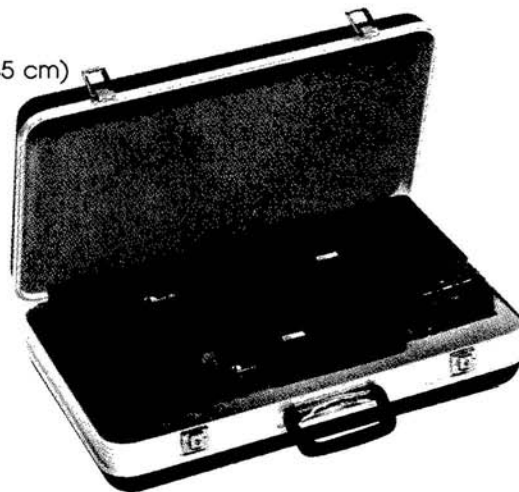
Power Source	14.5 Vdc (11-15.5 Vdc) or ADS 2002 AC Adaptor
Standby Current	0.15A
S/N Ratio	90 dB
Crossover Network	Active Electronic 12 dB/Octave
Total Power	2 x 40W at Clipping
Frequency Response	85-20,000 Hz \pm 3 dB
Acoustic Output (Max.)	103 dB SPL at 1 Meter
Material	Solid Black Anodized Brushed Aluminum
Size	6.85" x 4.25" x 4.9" (17.4 cm x 10.8 cm x 12.45 cm)
Weight	4.5 lbs (2.1 kp) each

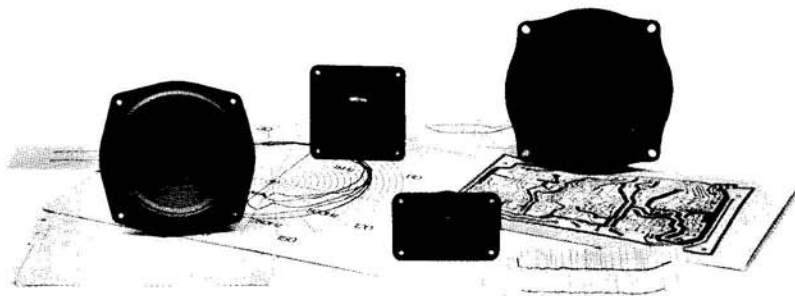
Accessories:

Check with your ADS dealer for available accessories.

Warranty:

Please see enclosed statement of warranty.





ADS

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